



CHEMISTRY

BOOKS - EVERGREEN CHEMISTRY (ENGLISH)

SELF ASSESSMENT PAPER 3

Section I

1. Name the following metals :

A metal which is unaffected by dilute or

concentrated acids.



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2. Name the following:

Non-metal which is a good conductor of electricity.



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3. Name the following:

A metallic nitrate that decomposes on

heating.



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4. Name of the following

A hydrocarbon which contributes towards the greenhouse effect.



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5. Name the method used for refining of copper metal



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6. State one appropriate observation for the following:

Dilute hydrochloric acid is added to copper carbonate.



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7. State one appropriate observation for the following:

When excess sodium hydroxide is added to zinc nitrate solution.



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8. Correct the following:

Constant boiling nitric acid contains 80% HNO_3 by weight.



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9. State one observation for the following : A zinc granule is added to copper sulphate solution.



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10. State one appropriate observation for the following:

When the gaseous product obtained by dehydration of ethyl alcohol is passed through bromine water.





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11. The ore from which aluminium is extracted must first be treated with solution so that pure aluminium oxide can be obtained. Name the ore and solution



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12. Zinc oxide can be reduced only by ...



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13. The number of atoms present in one molecule of an element is called its_____



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14. Non-metals have _____electron affinity.



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15. Category of compounds containing -OH group are known as



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16. Some word/words are missing in the following statement. You are required to rewrite the statement in the correct form using the appropriate word/words: Magnesium reacts with nitric acid to liberate hydrogen gas.



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17. Some word/words are missing in the following statement. You are required to re-write the statement in the correct form using the appropriate word/words.

Sodium chloride conducts electricity.



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18. Some word/words are missing in the following statement. You are required to re-write the statement in the correct form using

the appropriate word/words.

Constant boiling nitric acid contains 80% HNO_3 by weight.



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19. Some word/words are missing in the following statement. You are required to re-write the statement in the correct form using the appropriate word/words.

Sulphuric acid is a hygroscopic liquid.



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20. Some word/words are missing in the following statement. You are required to re-write the statement in the correct form using the appropriate word/words.

Alkanes are the hydrocarbons which contain only single covalent bonds between two carbon atoms.



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21. Draw the structural formula for each of the following:

(i) Ethanoic acid

(ii) But - 2 - yne



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22. Draw the structural formula for the following:

Propanone



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23. Draw the structural formula for the following:

dimethyl ether



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24. Draw the structural formula for the following:

Ethene



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25. Draw the structural formula for the following:

An isomer of n-pentane



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26. A strong electrolyte from the following is :

(a) Acetic acid

(b) Oxalic acid

(c) Ammonium hydroxide

(d) Sodium hydroxide

A. Acetic acid

B. Oxalic acid

C. Ammonium hydroxide

D. Sodium hydroxide

Answer:



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27. The ratio of the mass of a certain volume of gas to the mass of an equal volume of

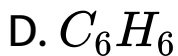
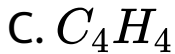
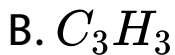
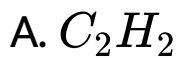
hydrogen under the same conditions of temperature and pressure is known as _____



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28. The empirical formula of the compound is CH . Its molecular weight is 78. The molecular formula of the compound will be :





Answer:



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29. Formula showing simplest whole number ratio is :

A. Scientific

B. Mathematical

C. Molecular

D. Empirical

Answer:



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30. Calculate the vapour density of ethene. (C = 12, H = 1).

A. 13

B. 14

C. 15

D. 16

Answer:



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31. Give reasons as to why:

the electrolysis of acidulated water is considered to be an example of catalysis.



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32. Give reasons why?

Aluminium cannot be obtained by the reduction of its oxide with carbon.



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33. Almost 90% of all known compounds are organic in nature. Give reason.



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34. Give reasons why?

Ionic compounds are crystalline solids.



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35. Give reasons why?

The size of cation is smaller than the size of parent atom.



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36. Write balanced chemical equations for the following:

Action of hydrochloric acid on a metal hydrogen carbonate.



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37. Write balanced chemical equations for the following:

Action of warm water on magnesium nitride.



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38. Write balanced chemical equations for the following:

A mixture of ammonium chloride and slaked lime is heated.



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39. Write balanced chemical equations for the following:

A saturated hydrocarbon from iodomethane.



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40. Write balanced chemical equations for the following:

Ethanol reacts with sodium at room temperature.



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Section II

1. During the electrolysis of copper (II) sulphate solution using platinum as cathode

and carbon as anode :

What do you observe at the cathode and at the anode ?



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2. During the electrolysis of copper (II) sulphate solution using platinum as cathode and carbon as anode :

What change is noticed in the electrolyte?



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3. During the electrolysis of copper (II) sulphate solution using platinum as cathode and carbon as anode :

Write the reactions at the cathode and at the anode.



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4. Differentiate between electrical conductivity of copper sulphate solution and copper metal

.



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5. As we descend the electrochemical series containing cations, the tendency of the cations to get _____ (oxidized/reduced) at the cathode increases.



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6. The _____ the concentration of an ion in a solution the greater is the probability of its being discharged at its appropriate electrode .



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7. Copy and complete the following table relating to important industrial process. Output refers to the product of the process not the intermediate steps.

Name of process	Inputs	Catalyst	Equation for catalysed reaction	Output
Haber Process	Hydrogen + Ammonia + Air			Nitric acid
Contact Process	Sulphur dioxide + Oxygen			



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8. The metals of group-2 from top to bottom are Be, Mg, Ca, Sr, Ba. Which of these metals will form ions most readily and why?



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9. What property of an element is measured by electronegativity.



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10. Select the correct method from: Simple displacement, Decomposition by acid, Direct synthesis, Neutralization, Double decomposition used for the preparation of the given salts:

Sodium nitrate



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11. Select the correct method from: Simple displacement, Decomposition by acid, Direct synthesis, Neutralization, Double

decomposition used for the preparation of the given salts:

Iron (III) chloride



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12. Select the correct method from: Simple displacement, Decomposition by acid, Direct synthesis, Neutralization, Double decomposition used for the preparation of the given salts:

Lead chloride



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13. Select the correct method from: Simple displacement, Decomposition by acid, Direct synthesis, Neutralization, Double decomposition used for the preparation of the given salts:

Zinc sulphate



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14. Select the correct method from: Simple displacement, Decomposition by acid, Direct synthesis, Neutralization, Double decomposition used for the preparation of the given salts:

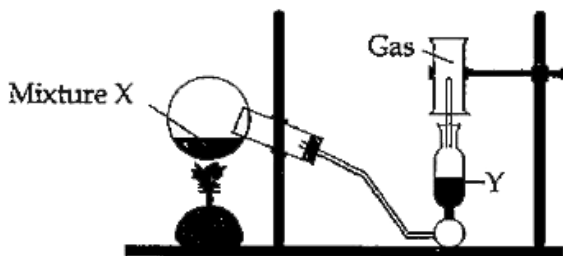
Sodium hydrogen sulphate.



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15. The diagram shows an experimental set up for the laboratory preparation of a pungent

smelling gas. The gas is alkaline in nature.



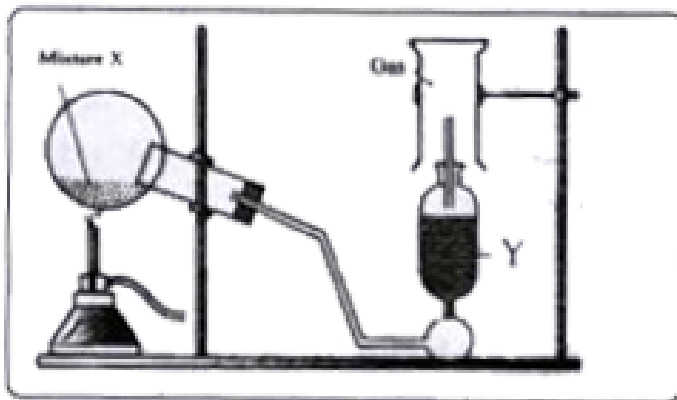
Laboratory preparation of a pungent smelling gas

Name the gas collected in the jar.



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16. The diagram shows an experimental set up for the laboratory preparation of a pungent smelling gas. The gas is alkaline in nature.

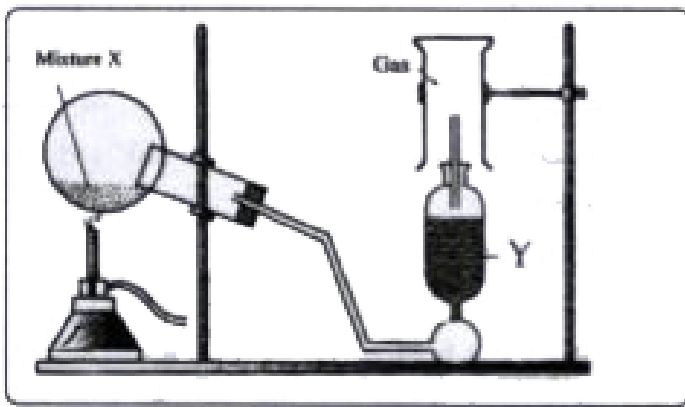


Write the balanced equation for the above preparation.



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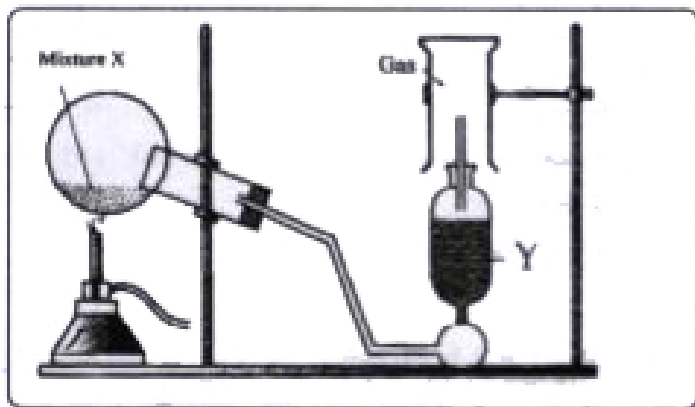
17. The diagram shows an experimental set up for the laboratory preparation of a pungent smelling gas. The gas is alkaline in nature.



How is the gas being collected ?

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18. The diagram shows an experimental set up for the laboratory preparation of a pungent smelling gas. The gas is alkaline in nature.

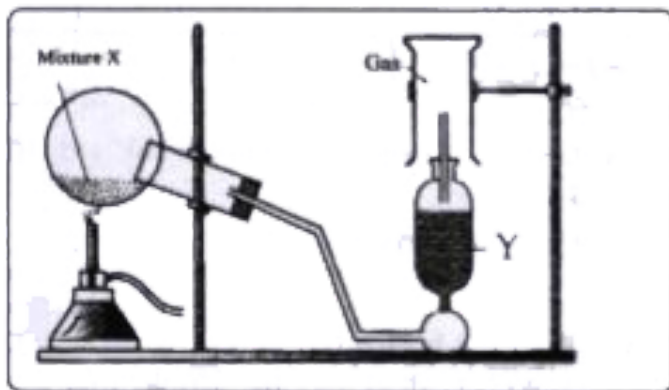


Name the drying agent used.



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19. The diagram shows an experimental set up for the laboratory preparation of a pungent smelling gas. The gas is alkaline in nature.



How will you find that the jar is full of gas?



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20. A compound has the following percentage composition by mass : Carbon = 54.55%, Hydrogen = 9.09% and Oxygen = 36.26%.

Its vapour density is 44. Find the Empirical and

molecular formula of the compound.

(H = 1, C = 12, O = 16)



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21. The following questions related to the extraction of aluminium by electrolysis :

Give the equation for the reaction that takes place at cathode.



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22. The following questions related to the extraction of aluminium by electrolysis :

Explain why it is necessary to renew anode from time to time?



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23. The following questions related to the extraction of aluminium by electrolysis :

What is the role of graphite?



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24. Arrange the following as per the instructions given in the brackets:

Cs, Na, Li, K, Rb (increasing order of metallic character).



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25. Arrange the following as per the instructions given in the brackets :

Mg, Cl, Na, S, Si (decreasing order of atomic size).



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26. Arrange the following as per the instructions given in the brackets :

Na, K, Cl, S, Si (increasing order of ionization energy).



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27. How does ammonium hydroxide help in distinguish between:

Iron (II) chloride and Iron (III) chloride.



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28. How does ammonium hydroxide help in distinguish between:

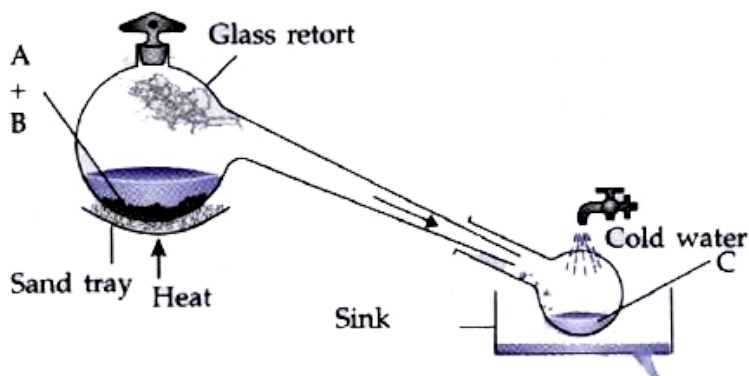
Zinc nitrate and Lead nitrate.



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29. The figure given alongside illustrates the apparatus used in the laboratory preparation

B of nitric acid.



Name A (a liquid), B (a solid) and C (a liquid)

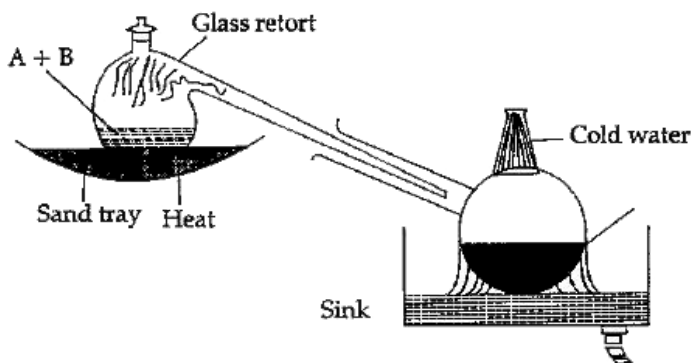
(Do not give the formulae)



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30. Write an equation to show how nitric acid undergoes decomposition.

31. The figure given below illustrates the apparatus used in the laboratory preparation of nitric acid.



Laboratory preparation of nitric acid

Complete the following:

_____ is oxidised by nitric acid.

32. When moist chlorine reacts with hydrogen sulphide, name the two products formed?



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33. Name an organic compound used as a thermometric liquid.



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34. Why is hydrogen chloride not collected over water ?



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35. Name the chemical in which gold can be dissolved.



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36. Name :

a yellow monoxide that dissolves in hot and concentrated caustic alkali.



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37. Match the following columns

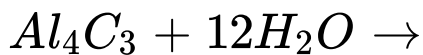
General formula	IUPAC name of the homologous series	C_nH_{2n}	C_nH_{2n-2}	C_nH_{2n+2}
Characteristic bond type				Single bond
IUPAC name of the first member of the series				
Type of reaction with chlorine			Addition	



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38. Complete the following chemical equations

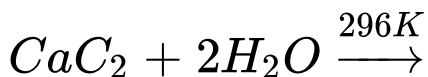
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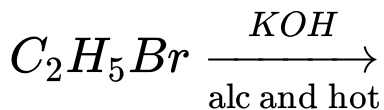
39. Complete the following chemical equations

:



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40. Complete the following chemical equations :



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